

EXOTIC PESTS FACT SHEET

GRDC

Grains
Research &
Development
Corporation

FEBRUARY 2008

Exotic pests

NATIONAL GRAINS INDUSTRY ON-FARM BIOSECURITY PROGRAM



EXTREME RISK | KARNAL BUNT - The most serious pest for the wheat industry

IMPACT ON

■ Market access ■ Production costs

- Hosts are wheat, durum and triticale
- Blackened seeds crush relatively easy
- Infected grain has a fishy smell
- Import restrictions in over 45 countries
- If established in Australia, would reduce grain price by \$20 to \$55/t



PHOTO: PaDIL

HIGH RISK | KHAPRA BEETLE - Serious pest of all stored grain

IMPACT ON

■ Market access ■ Production costs

- Adults have wings but don't fly
- Insects are spread in infected grain
- Insects are only 2-3 mm long
- Can damage up to 30% grain before it is noticed
- Phosphine fumigation is not very effective
- Larvae can survive over a year without food
- Reduces the number of overseas markets



HIGH RISK | PHOSPHINE-RESISTANT STRAINS OF STORED GRAIN INSECTS - Pest of all stored grain

IMPACT ON

■ Market access ■ Production costs

- Many overseas countries have grain insects with 'strong resistance' to phosphine
- Phosphine gas is main fumigant used in stored grain
- Threat to exports because resistant insects can survive fumigation
- Poor fumigation also increases selection pressure
- Need regular testing of live insects by entomology laboratory
- Early detection is the key



PHOTO: JIM KALISCH, UNIVERSITY OF NEBRASKA-LINCOLN

HIGH RISK | RUSSIAN WHEAT APHID - Main hosts are wheat and barley

IMPACT ON

■ Market access ■ Production costs

- Could cause large yield losses
- Symptoms seen with the presence of aphids are:
 - rolled up leaves with white, purple or yellowish leaf streaks
 - rolling of flag leaf & awns
 - bleached heads with small grains



PHOTO: USDA

HIGH RISK | HESSIAN FLY - Main hosts are wheat and barley**IMPACT ON****■ Market access ■ Production costs**

- Crop losses up to 40% recorded
- Adults look like a small mosquito, 2-4 mm long
- Attacks leaves, stems and heads
- Most chemical controls are not effective



PHOTO: UNIVERSITY OF NEBRASKA-LINCOLN

MEDIUM RISK | SUNN PEST - Main hosts are wheat and barley**IMPACT ON****■ Market access ■ Production costs**

- Most easily seen on cereal heads in spring
- Usually found in colonies near paddock edge
- Injects enzymes into grain as it feeds which can cause grain abortion
- Only 3% damaged grain can cause flour to be rejected



PHOTO: ICARDA

MEDIUM RISK | BARLEY STRIPE RUST - Main host is barley**IMPACT ON****■ Market access**

- Many Australian barley varieties will be susceptible
- Risk of introduction and spread via unwashed clothes or shoes worn in infected crops overseas

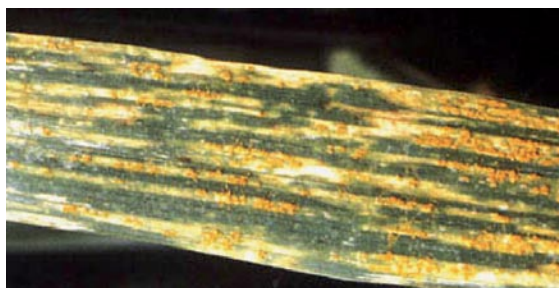


PHOTO: CIMMYT

MEDIUM RISK | WHEAT STEM Rust Ug-99 - Main host is wheat**IMPACT ON****■ Market access**

- New strain identified in Uganda in 1999
- Some wheat varieties will be susceptible
- Ug-99 has overcome resistance gene Sr31 and some strains have overcome Sr24
- Risk of introduction and spread via unwashed clothes and shoes worn in infected crops overseas

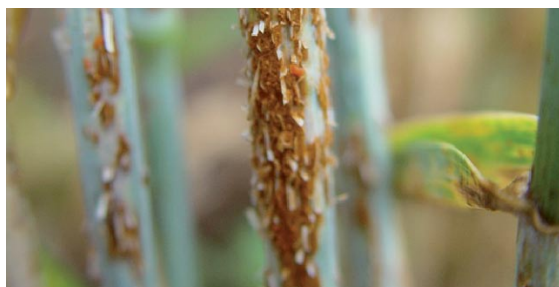


PHOTO: HOME-GROWN CEREALS AUTHORITY, LONDON

Exotic Plant Pest Hotline 1800 084 881

For further information visit www.planthealthaustralia.com.au

or contact:

■ **Keith Devenish** (08) 9368 3600 Email kdevenish@phau.com.au

■ **Sharyn Taylor** (02) 6260 4322 Email staylor@phau.com.au

PHA RETAINS COPYRIGHT OF THE CONTENT IN THIS PUBLICATION